

REMARKS

Claims 1-6 were examined and stand rejected. Applicants amend Claim 1, cancel Claim 6 and add new Claim 8. Applicants reserve the right to prosecute the former claims in a divisional or continuation application. Applicants respectfully request reconsideration of pending Claims 1-5 and 8, as amended, in view of at least the following remarks.

I. Claims Rejected Under 35 U.S.C. §102

The Patent Office rejects Claims 1-6 under 35 U.S.C. §102(b) as being anticipated by Kuribayashi et al., ("Battery Characteristics with Various Carbonaceous Materials," Journal of Power Sources 54 (1995) 1-5.) ("Kuribayashi"). Applicants respectfully traverse this rejection.

Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*" Lindemann Maschinenfabrik v. American Hoist & Derrick ("Lindemann"), 730 F.2d 452, 1458 (Fed. Cir. 1994)(emphasis added). Additionally, each and every element of the claim must be exactly disclosed in the anticipatory reference. Titanium Metals Corp. of America v. Banner ("Banner Titanium"), 778 F.2d 775, 777 (Fed. Cir. 1985).

Claim 1, as amended, includes the following claim feature, which is neither taught nor suggested by either Kuribayashi or the references of record:

wherein the active material includes at least one crystalline graphite primary particle coated with amorphous carbon, and the at least one crystalline graphite primary particle coated with the amorphous carbon is agglomerated and made into a spherical shape to produce secondary particles.

Applicants respectfully submit that neither Kuribayashi nor the references of record disclose a carbonaceous material where the primary particles are agglomerated into secondary particles, as recited in Claim 1, as amended. Conversely, FIGS. 4 and 5 of Kuribayashi show core shell particles, but do not show the core shell particles agglomerated and made into a spherical shape to produce secondary particles, as recited by Claim 1. Furthermore, Applicants respectfully submit that the carbonaceous material of secondary particles has a random structure resulting in an improvement of battery performance at a higher rate. Accordingly, Applicants respectfully submit that Applicants' amendment of Claim 1 prohibits the Examiner from establishing a *prima facie* case of anticipation of Claim 1 over Kuribayashi.

Furthermore, Claim 1 also includes the following claim feature, which is neither taught nor suggested by either Kuribayashi or the references of record:

the amorphous graphitizable carbon shell coating is derived from an amorphous carbon precursor selected from the group consisting of pitch, coal based oil and heavy oil.

The selection of a carbon precursor from the group consisting of pitch, coal based oil and heavy oil is included to illustrate that the carbon shell coating is a graphitizable carbon, which is known to those skilled in the art as a soft carbon. According to the Examiner, Kuribayashi teaches an amorphous graphitizable carbon shell coating. Applicants respectfully traverse the Examiner's contention.

In contrast, Kuribayashi teaches a carbonaceous active material comprising a core shell structure produced from graphite and pseudo-graphite coated with pitch blended phenol resin and green mesophase pitch coated with phenol resin and ground graphite powder, as active materials for negative electrodes (*See* Abstract). In contrast, coke is formed by carbonization of bituminous coal, petroleum and coal-tar pitch.

As is further described at col. 2, lines 10-14, Kuribayashi teaches carbonaceous materials having a core shell structure, with a shell comprised of coke-like carbon and the core composed of graphite or pseudo-graphite. Kuribayashi further describes the goal of obtaining a carbonation material with a higher energy density than coke by coating a blend of phenol resin and fine ground graphite on green mesophase pitch beads.

Applicants respectfully submit that the pitch blended phenol resin and green mesophase pitch coated with phenol resin would be interpreted by those skilled in the art as a modified phenol resin and therefore identified as a non-graphitizable carbon or hard carbon. Further, after careful review of Kuribayashi, the coke-like carbon coating as taught by Kuribayashi refers to a coating which exhibits a higher energy density than that exhibited by coke. Moreover, Applicants respectfully submit that those skilled in the art recognize coke as a non-graphitizable carbon or hard carbon.

Accordingly, Applicants respectfully submit that a coke-like shell coating, as taught by Kuribayashi fails to teach or suggest an amorphous graphitizable carbon shell coating derived from an amorphous carbon precursor selected from the group consisting of pitch, coal based oil and heavy oil, as recited in Claim 1, as amended.

Furthermore, Applicants respectfully submit that the Examiner did not establish a *prima facie* case of anticipation in view of Kuribayashi, which according to the Examiner inherently discloses the displaying of at least two exothermal peaks overlapping to form shoulders, as recited in Claim 1. Applicants respectfully submit that the Examiner cannot establish a *prima facie* case of anticipation since the Examiner has failed to provide a basis in fact under technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the prior art. *Ex parte Levy*, 17 U.S.P.Q. 2d. 1461, 1464 (Bd. Pat. App. and Intr. 1990).

The Federal Circuit Court of Appeals of In Re Rijckaert, 9, F.3d 1531 (Fed. Cir. 1993) held that:

[T]he fact that a certain result or characteristic may occur or be present in the prior art is not efficient to establish the inherency of that result or characteristic. (9 F.3d at 1534, 28 U.S.P.Q. 2d at 1955, 1957.)

According to the Examiner:

differential thermo analysis is not disclosed or discussed in Kuribayashi; however, the properties indicated by differential thermo analysis would be inherent. The carbonaceous material would have two separate inherent exothermic peak values based on the graphite material and the non-graphite material. Thus, the graphite and carbon core materials will inherently have two specific peaks by DTA and the claims are anticipated. (Final Office Action, pg. 3, lines 14 - pg. 4, line 2.)

However, the Federal Circuit Court of Appeals in In re Robinson, 169 F.3d 743, 49 U.S.P.Q. 2d 1949 held that:

[T]o establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference and that it would be so recognized by persons of ordinary skill. The inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. (169 F.3d at 745, 49 U.S.P.Q. 2d at 1950-1951.)

Applicants respectfully submit that the Examiner is using inherency to anticipate Claim 1 based on the possibility that the carbonaceous active material as taught by Kuribayashi will have two exothermic peaks with overlapping shoulders. However, as indicated above, Kuribayashi teaches a non-graphitizable shell coating, while Claim 1 recites a graphitizable shell coating. Accordingly, Applicants submit that the Examiner has failed to anticipate the displaying of at least two exothermic peaks overlapping to form shoulders, as recited in Claim 1, since it is unclear whether the overlapping of the shoulders formed by the peaks as recited in Claim 1 would be recognized by persons of ordinary skill in the art in view of Kuribayashi.

Therefore, Applicants respectfully submit that for at least the reasons described above, the Examiner is prohibited from establishing a *prima facie* case of anticipation in view of Kuribayashi as to Claim 1, as amended. Accordingly, Claim 1, as amended, is patentable over Kuribayashi as well as the references of record. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §102(b) rejection of Claim 1.

Regarding Claims 2-5, Claims 2-5 depend from Claim 1 and therefore include the patentable claim features of Claim 1, as described above. Accordingly, Claims 2-5, for at least the reasons described above, are patentable over the references of record. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §102(b) rejection of Claims 2-5.

The Patent Office rejects Claims 1-6 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,027,833 issued to Ueda et al. ("Ueda"). Applicants respectfully traverse this rejection.

Regarding Claim 1, Claim 1, as amended, includes the following claim feature, which is neither taught by Ueda or the references of record:

wherein the active material includes at least one crystalline graphite primary particle coated with amorphous carbon, and the at least one crystalline graphite primary particle coated with the amorphous carbon is agglomerated and made into a spherical shape to produce secondary particles.

According to the Examiner, agglomerates are shown in FIG. 2 of Ueda. Applicants respectfully disagree with the Examiner's contention. In contrast to the Examiner's contention, Applicants respectfully submit that FIG. 2 of Ueda shows active materials that are present in the electrode. The active materials are agglomerated by being pressed to fabricate the electrode. Conversely, as recited in Claim 1, the active materials are present at agglomerate state before fabrication of the electrode.

Applicants respectfully submit that unless the active materials, as taught by Ueda, are present at agglomerate state before fabrication of the electrode, the active materials may not be agglomerated and made into a spherical shape to produce secondary particles, as recited in Claim 1, as amended, to provide carbonation material of secondary particles having a random structure resulting in an improvement of battery performance.

Accordingly, Applicants respectfully submit that Claim 1, as amended, is patentable over Ueda, as well as the references of record. Therefore, Applicants respectfully submit that Applicants' amendment of Claim 1 prohibits the Examiner from establishing a *prima facie* case of anticipation of Claim 1, as amended.

Furthermore, Applicants respectfully submit that the Examiner did not establish a *prima facie* case of anticipation in view of Ueda, which according to the Examiner, inherently discloses the displaying of at least two exothermal peaks overlapping to form shoulders, as recited in Claim 1. Applicants respectfully submit that the Examiner cannot establish a *prima facie* case of anticipation, since the Examiner has failed to provide a basis in fact under technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of the prior art. *Ex parte Levy*.

Therefore, Applicants respectfully submit that for at least the reasons describe above, the Examiner is prohibited from establishing a *prima facie* case of anticipation in view of Ueda, as well as the references of record as to Claim 1, as amended. Accordingly, Claim 1, as amended, is patentable over Ueda, as well as the references of record. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw the §102(e) rejection of Claim 1.

Regarding Claims 2-5, Claims 2-5 depend from Claim 1 and therefore include the patentable claim features of Claim 1, as described above. Accordingly, Claims 2-5, for at least the reasons described above, are patentable over the references of record. Consequently, Applicants

respectfully request that the Examiner reconsider and withdraw the §102(e) rejection of Claims 2–5.

II. Claims Rejected Under 35 U.S.C. §103(a)

The Patent Office has rejected Claims 1-6 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,103,423 issued to Itoh et al. (“Itoh”) in view of Kuribayashi. Applicants respectfully traverse this rejection.

Regarding Claim 1, Claim 1 is amended to include the following claim feature, which is neither taught nor suggested by either Itoh, Kuribayashi or the references of record:

wherein the active material includes at least one crystalline graphite primary particle coated with amorphous carbon, and the at least one crystalline graphite primary particle coated with the amorphous carbon is agglomerated and made into a spherical shape to produce secondary particles.

According to the Examiner, agglomerates are shown in FIG. 2 of Itoh. Applicants respectfully disagree with the Examiner’s contention. In contrast to the Examiner’s contention, Applicants respectfully submit that FIG. 2 of Itoh shows active materials that are present in the electrode. The active materials are agglomerated by being pressed to fabricate the electrode. Conversely, as recited in Claim 1, the active materials are present at agglomerate state before fabrication of the electrode.

Applicants respectfully submit that unless the active materials, as taught by Itoh, are present at agglomerate state before fabrication of the electrode, the active materials may not be agglomerated and made into a spherical shape to produce secondary particles, as recited by Claim 1, as amended, to provide carbonation material of secondary particles having a random structure resulting in an improvement of battery performance.

In addition, Applicants respectfully submit that Kuribayashi also does not disclose a carbonaceous material where the primary particles are agglomerated into secondary particles, as recited in Claim 1, as amended. Conversely, FIGS. 4 and 5 of Kuribayashi show core shell particles, but do not show the core shell particles agglomerated and made into a spherical shape to produce secondary particles, as recited by Claim 1.

Furthermore, Applicants respectfully submit that the Examiner did not establish a *prima facie* case of obviousness over Itoh in view of Kuribayashi, which according to the Examiner, inherently discloses the displaying of at least two exothermal peaks overlapping to form shoulders, as recited in Claim 1. Applicants respectfully submit that the Examiner cannot establish a *prima facie* case of obviousness, since the Examiner has failed to provide a basis in fact under technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of the prior art. Ex parte Levy.

Therefore, Applicants respectfully submit that for at least the reasons describe above, the Examiner is prohibited from establishing a *prima facie* case of obviousness over Itoh in view of Kuribayashi, as well as the references of record as to Claim 1, as amended. Accordingly, Claim 1, as amended, is patentable over Itoh in view of Kuribayashi, as well as the references of record. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claim 1.

Regarding Claims 2-5, Claims 2-5 depend from Claim 1 and therefore include the patentable claim features of Claim 1, as described above. Accordingly, Claims 2-5, for at least the reasons described above, are patentable over the references of record. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §103(a) rejection of Claims 2-5.

Regarding new Claim 8, Applicants respectfully submit that new Claim 8 is provided to describe claim features of a process for making an active material. Applicants respectfully submit that Claim 1 is patentable over the references of record, since as indicated by the Examiner, the cited references do not disclose a process for making the active material. Therefore, Applicants respectfully request that the Examiner allow new Claim 8.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending (1) are in proper form, (2) are neither obvious nor anticipated by the relied upon art of record, and (3) are in condition for allowance. A Notice of Allowance is earnestly solicited at the earliest possible date. If the Office believes that a telephone conference would be useful in moving the application forward to allowance, the Office is encouraged to contact the undersigned at (310) 207-3800.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly, extension of time fees.

Respectfully submitted,

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Dated: June 11, 2004

By: _____

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CERTIFICATE OF MAILING:

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22304-1450, on June 11, 2004

Marilyn Bass

June 11, 2004